IN THE CLAIMS:

Each of claims 1–23 has been amended and new claims 24–42 have been added herein. Please note that all claims currently pending and under consideration in the referenced application are shown below. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (currently amended) A process for ~~the production of~~producing cured poly(glycidyl nitrate), ~~said process~~ comprising:

providing at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two;

~~optionally~~ reacting the at least one multi-functional alcohol initiator with a catalyst to form a catalyst-initiator complex;

reacting glycidyl nitrate with ~~at least one member selected from the group consisting of the multi-functional alcohol initiator and~~ the catalyst-initiator complex to form poly(glycidyl nitrate); and

~~crosslinking~~ cross-linking the poly(glycidyl nitrate) with at least one curative comprising at least one aromatic polyisocyanate having a functionality greater than two, the at least one aromatic polyisocyanate having at least one aromatic ring and having, on average, more than two isocyanate moieties bonded directly to the at least one aromatic ring, to form cured poly(glycidyl nitrate) having improved stability against de-cure at elevated temperatures.

2. (currently amended) ~~A~~ The process according to claim 1, wherein reacting the glycidyl nitrate with the catalyst-initiator complex to form the poly(glycidyl nitrate) comprises reacting the glycidyl nitrate with the catalyst-initiator complex to form the poly(glycidyl nitrate) ~~has~~ having a functionality substantially equal in number to the hydroxyl functionality of the at least one multi-functional alcohol initiator.

3. (currently amended) ~~A~~ The process according to claim 1, wherein ~~the~~ providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator ~~comprises~~ which is a liquid at room temperature.

4. (currently amended) ~~A~~ The process according to claim 1, wherein ~~the~~ providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of ~~the multi-functional alcohol initiator is at least~~ two.

5. (currently amended) ~~A~~ The process according to claim 1, wherein ~~the~~ providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of ~~the multi-functional alcohol initiator is~~ three.

6. (currently amended) ~~A~~ The process according to claim 1, wherein ~~the~~ providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of ~~the multi-functional alcohol initiator is~~ four.

7. (currently amended) ~~A~~ The process according to claim 1, wherein ~~the~~ cross-linking the poly(glycidyl nitrate) with the at least one curative comprising the at least one aromatic polyisocyanate having a functionality greater than two comprises cross-linking the poly(glycidyl nitrate) with the at least one curative comprising the at least one aromatic polyisocyanate ~~has~~ having a functionality of at least 2.3.

8. (currently amended) ~~A~~ The process according to claim 1, further comprising drying the catalyst-initiator complex.

9. (currently amended) ~~A~~ The process according to claim 1, further comprising drying the catalyst-initiator complex with calcium hydride.

10. (currently amended) A process for ~~the production of~~producing a cured energetic composition, ~~said process~~ comprising:

providing at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two;

~~optionally~~ reacting the at least one multi-functional alcohol initiator with a catalyst to form a catalyst-initiator complex;

reacting glycidyl nitrate with ~~at least one member selected from the group consisting of the multi-functional alcohol initiator and~~ the catalyst-initiator complex to form poly(glycidyl nitrate);

preparing an energetic formulation comprising the poly(glycidyl nitrate); and

~~crosslinking~~ cross-linking the energetic formulation comprising the poly(glycidyl nitrate) with at least one curative comprising at least one aromatic polyisocyanate, the at least one aromatic polyisocyanate having at least one aromatic ring and, on average, more than two isocyanate moieties bonded directly to the at least one aromatic ring, to form a cured energetic composition having improved stability against de-cure at elevated temperatures.

11. (currently amended) ~~A~~ The process according to claim 10, wherein ~~the~~ reacting the glycidyl nitrate with the catalyst-initiator complex to form the poly(glycidyl nitrate) comprises reacting the glycidyl nitrate with the catalyst-initiator complex to form the poly(glycidyl nitrate) ~~has~~ having a functionality substantially equal in number to the hydroxyl functionality of the at least one multi-functional alcohol initiator.

12. (currently amended) ~~A~~ The process according to claim 10, wherein ~~the~~ providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator ~~comprises~~ which is a liquid at room temperature.

13. (currently amended) ~~A~~ The process according to claim 10, wherein ~~the~~ providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of ~~the multi-functional alcohol initiator is~~ two.

14. (currently amended) ~~A~~ The process according to claim 10, wherein ~~the~~ providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of ~~the multi-functional alcohol initiator is~~ three.

15. (currently amended) ~~A~~ Theprocess according to claim 10, wherein ~~the~~ providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of ~~the multi-functional alcohol initiator is~~ four.

16. (currently amended) ~~A~~ The process according to claim 10, wherein ~~the~~ cross-linking the energetic formulation comprising the poly(glycidyl nitrate) with the at least one curative comprising the at least one aromatic polyisocyanate comprises cross-linking the energetic formulation comprising the poly(glycidyl nitrate) with the at least one curative comprising the at least one aromatic polyisocyanate ~~has~~ having a functionality of at least 2.3.

17. (currently amended) ~~A~~ The process according to claim 10, further comprising drying the catalyst-initiator complex.

18. (currently amended) ~~A~~ The process according to claim 10, further comprising drying the catalyst-initiator complex with calcium hydride.

19. (currently amended) ~~A~~ The process according to claim 10, wherein ~~the~~ preparing an energetic formulation comprising the poly(glycidyl nitrate) comprises preparing an energetic formulation which is a gun propellant comprising ~~15~~ 15.0 weight percent to ~~40~~ 40.0 weight percent of the poly(glycidyl nitrate) and at least one plasticizer, up to ~~80~~ 80.0 weight percent of at least one energetic filler, and 0.5 weight percent to ~~5~~ 5.0 weight percent of at least one ballistic modifier.

20. (currently amended) ~~A~~ The process according to claim 10, wherein ~~the~~ preparing an energetic formulation comprising the poly(glycidyl nitrate) comprises preparing an energetic formulation which is a cast cure explosive comprising ~~5~~ 5.0 weight percent to ~~20~~ 20.0 weight percent of the poly(glycidyl nitrate), 0.5 weight percent to ~~3~~ 3.0weight percent of the at least one aromatic polyisocyanate, and ~~20~~ 20.0 weight percent to ~~80~~ 80.0 weight percent of at least one oxidizer.

21. (currently amended) ~~A~~ The process according to claim 10, wherein ~~the~~ preparing an energetic formulation comprising the poly(glycidyl nitrate) comprises preparing an energetic formulation which is a minimum smoke propellant comprising ~~4~~ 4.0 weight percent to ~~30~~ 30.0 weight percent of the poly(glycidyl nitrate), 0.5 weight percent to ~~3~~ 3.0 weight percent of the at least one aromatic polyisocyanate, 0.25 weight percent to ~~2~~ 2.0 weight percent of at least one cure catalyst, ~~0~~ 0.0 weight percent to ~~80~~ 80.0 weight percent of at least one solid oxidizer, ~~0~~ 0.0 weight percent to ~~50~~ 50.0 weight percent of at least one energetic solid filler, and ~~0~~ 0.0 weight percent to ~~30~~ 30.0 weight percent of at least one plasticizer.

22. (currently amended) ~~A~~ The process according to claim 10, wherein ~~the~~ preparing an energetic formulation comprising the poly(glycidyl nitrate) comprises preparing an energetic formulation which is a rocket motor propellant, and wherein at least ~~3~~ 3.0 weight percent of the energetic formulation consists of at least one member selected from the group consisting of aluminum and aluminum oxide.

23. (currently amended) ~~A~~ The process according to claim 10, wherein the energetic formulation further comprises at least one metal selected from the group consisting of aluminum, magnesium, boron, titanium, and zirconium.

24. (new) A process for producing cured poly(glycidyl nitrate), comprising:

providing at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two;

reacting glycidyl nitrate with the at least one multi-functional alcohol initiator to form poly(glycidyl nitrate); and

cross-linking the poly(glycidyl nitrate) with at least one curative comprising at least one aromatic polyisocyanate having a functionality greater than two, the at least one aromatic polyisocyanate having at least one aromatic ring and having, on average, more than two isocyanate moieties bonded directly to the at least one aromatic ring, to form cured poly(gylcidyl nitrate) having improved stability against de-cure at elevated temperatures.

25. (new) The process according to claim 24, wherein reacting the glycidyl nitrate with the at least one multi-functional alcohol initiator to form the poly(glycidyl nitrate) comprises reacting the glycidyl nitrate with the at least one multi-functional alcohol initiator to form the poly(glycidyl nitrate) having a functionality substantially equal in number to the hydroxyl functionality of the at least one multi-functional alcohol initiator.

26. (new) The process according to claim 24, wherein providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator which is a liquid at room temperature.

27. (new) The process according to claim 24, wherein providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of two.

28. (new) The process according to claim 24, wherein providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of three.

29. (new) The process according to claim 24, wherein providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of four.

30. (new) The process according to claim 24, wherein cross-linking the poly(glycidyl nitrate) with the at least one curative comprising the at least one aromatic polyisocyanate having a functionality greater than two comprises cross-linking the poly(glycidyl nitrate) with the at least one curative comprising the at least one aromatic polyisocyanate having a functionality of at least 2.3.

31. (new) A process for producing a cured energetic composition, comprising:

providing at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two;

reacting glycidyl nitrate with the at least one multi-functional alcohol initiator to form poly(glycidyl nitrate);

preparing an energetic formulation comprising the poly(glycidyl nitrate); and

cross-linking the energetic formulation comprising the poly(glycidyl nitrate) with at least one curative comprising at least one aromatic polyisocyanate, the at least one aromatic polyisocyanate having at least one aromatic ring and, on average, more than two isocyanate moieties bonded directly to the at least one aromatic ring, to form a cured energetic composition having improved stability against de-cure at elevated temperatures.

32. (new) The process according to claim 31, wherein reacting the glycidyl nitrate with the at least one multi-functional alcohol initiator to form the poly(glycidyl nitrate) comprises reacting the glycidyl nitrate with the at least one multi-functional alcohol initiator to form the poly(glycidyl nitrate) having a functionality substantially equal in number to the hydroxyl functionality of the at least one multi-functional alcohol initiator.

33. (new) The process according to claim 31, wherein providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-funcitional alcohol initiator which is a liquid at room temperature.

34. (new) The process according to claim 31, wherein providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of two.

35. (new) The process according to claim 31, wherein providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of three.

36. (new) The process according to claim 31, wherein providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two comprises providing the at least one multi-functional alcohol initiator having a hydroxyl functionality of four.

37. (new) The process according to claim 31, wherein cross-linking the energetic formulation comprising the poly(glycidyl nitrate) with the at least one curative comprising the at least one aromatic polyisocyanate comprises cross-linking the energetic formulation comprising the poly(glycidyl nitrate) with the at least one curative comprising the at least one aromatic polyisocyanate having a functionality of at least 2.3.

38. (new) The process according to claim 31, wherein preparing an energetic formulation comprising the poly(glycidyl nitrate) comprises preparing an energetic formulation which is a gun propellant comprising between 15.0 weight percent and 40.0 weight percent of the poly(glycidyl nitrate) and at least one plasticizer, between 0.0 weight percent and 80.0 weight percent of at least one energetic filler, and between 0.5 weight percent and 5.0 weight percent of at least one ballistic modifier.

39. (new) The process according to claim 31, wherein preparing an energetic formulation comprising the poly(glycidyl nitrate) comprises preparing an energetic formulation which is a cast cure explosive comprising between 5.0 weight percent and 20.0 weight percent of the poly(glycidyl nitrate), between 0.5 weight percent and 3.0 weight percent of the at least one aromatic polyisocyanate, and between 20.0 weight percent and 80.0 weight percent of at least one oxidizer.

40. (new) The process according to claim 31, wherein preparing an energetic formulation comprising the poly(glycidyl nitrate) comprises preparing an energetic formulation which is a minimum smoke propellant comprising between 4.0 weight percent and 30.0 weight percent of the poly(glycidyl nitrate), between 0.5 weight percent and 3.0 weight percent of the at least one aromatic polyisocyanate, between 0.0 weight percent and 80.0 weight percent of at least one solid oxidizer, between 0.0 weight percent and 50.0 weight percent of at least one energetic solid filler, and between 0.0 weight percent and 30.0 weight percent of at least one plasticizer.

41. (new) The process according to claim 31, wherein preparing an energetic formulation comprising the ply(glycidyl nitrate) comprises preparing an energetic formulation which is a rocket motor propellant, and wherein at least 3.0 weight percent of the energetic formulation consists of at least one member selected from the group consisting of aluminum and aluminum oxide.

42. (new) The process according to claim 31, wherein the energetic formulation further comprises at least one metal selected from the group consisting of aluminum, magnesium, boron, titanium, and zirconium.